

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 March 2004 (25.03.2004)

PCT

(10) International Publication Number
WO 2004/024173 A2

- (51) International Patent Classification⁷: **A61K 38/00**
- (21) International Application Number:
PCT/EP2003/010162
- (22) International Filing Date:
12 September 2003 (12.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
02020649.6 13 September 2002 (13.09.2002) EP
02028510.2 19 December 2002 (19.12.2002) EP
- (71) Applicant (*for all designated States except US*): **CRE-ABILIS THERAPEUTICS S.R.L.** [IT/IT]; BioIndustry Park, Via Ribes, 5, I-10010 Colletterto Giacosa (IT).
- (72) Inventors; and
(75) Inventors/Applicants (*for US only*): **BUSSOLINO, Federico** [IT/IT]; Via Torricelli, 15, I-10129 Torino (IT). **MARCHIO, Serena** [IT/IT]; Via Giordano Bruno, 85, I-10134 Torino (IT).
- (74) Agent: **WEICKMANN & WEICKMANN**; Postfach 860 820, 81635 München (DE).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— *without international search report and to be republished upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: A NOVEL MECHANISM FOR HIV-1 ENTRY INTO HOST CELLS AND PEPTIDES INHIBITING THIS MECHANISM

(57) Abstract: This invention relates to the finding that TAT interacts with gp120 at the cell surface and enhances HIV-1 entry into host cells. This invention also discloses modulators of this interaction, particularly peptides that mimic the region of gp120 involved in this interaction. These peptides interfere with TAT-mediated enhancement of infection regardless of virus strain, and are therefore suitable for the development in general of broad-range drugs against AIDS and other infectious diseases induced by HIV-1 related pathogens, and specifically for a class of chemicals active in the reduction or abrogation of virus and infectivity spreading.



WO 2004/024173 A2